

FIG. 1

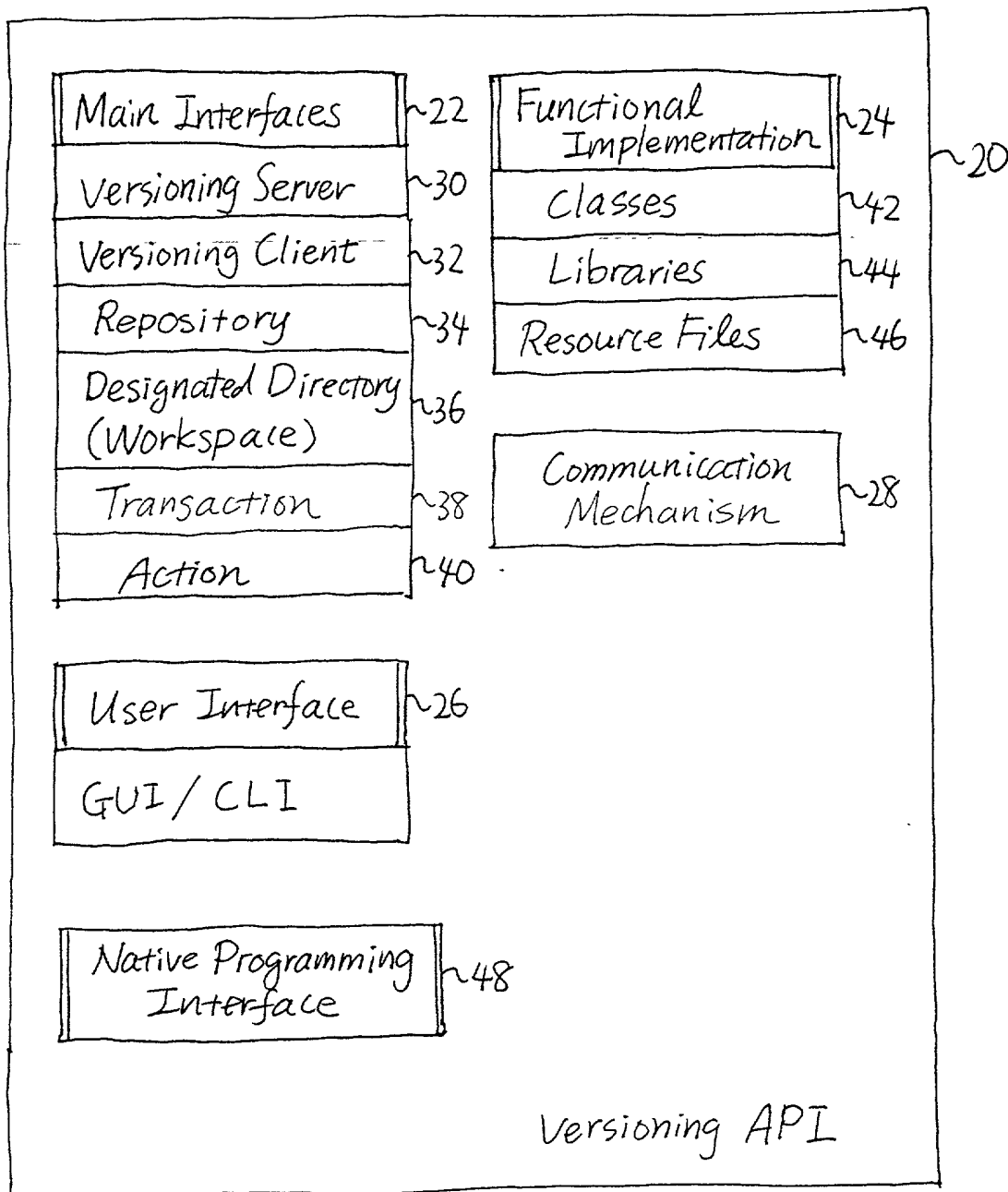


FIG. 2

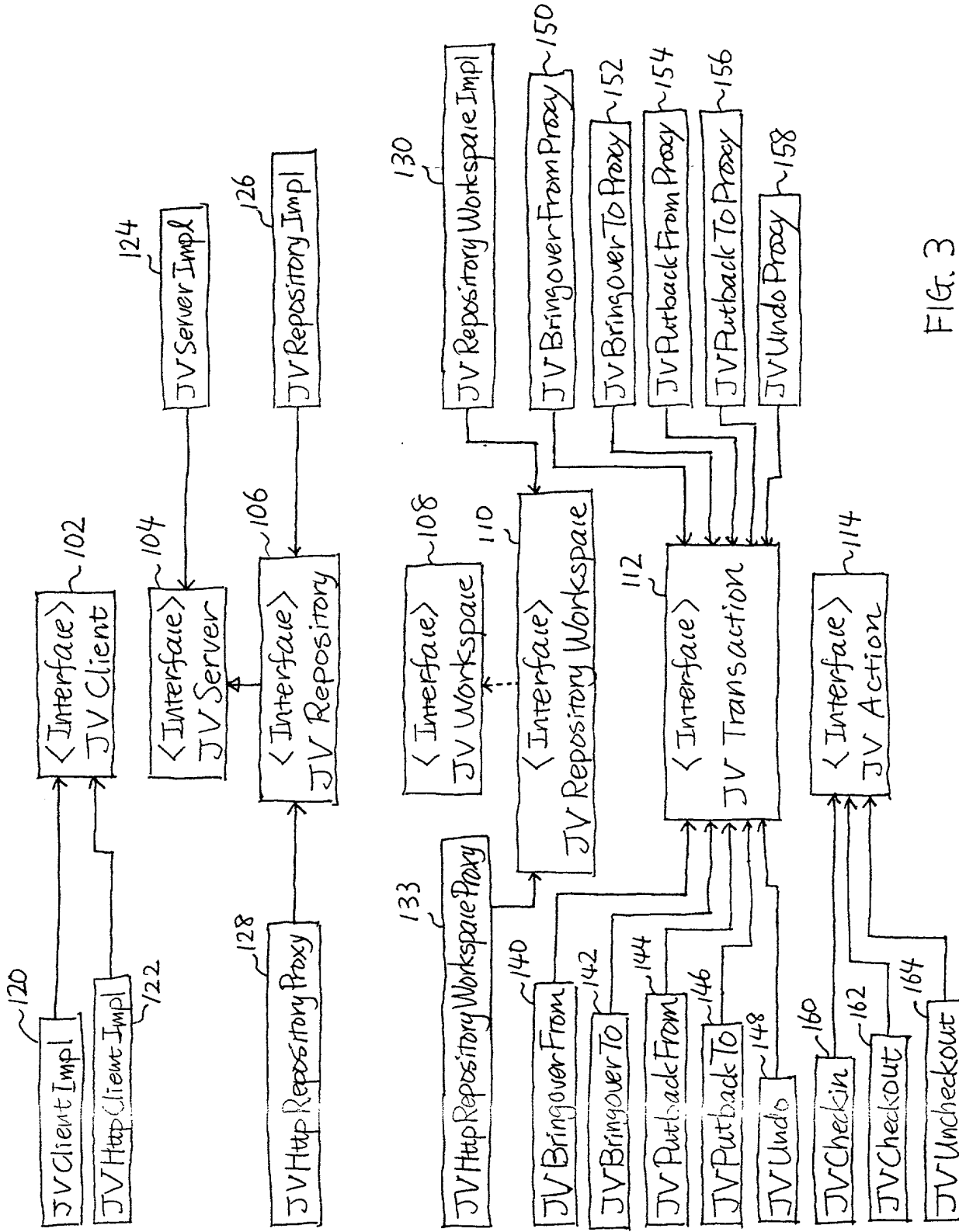


FIG. 3

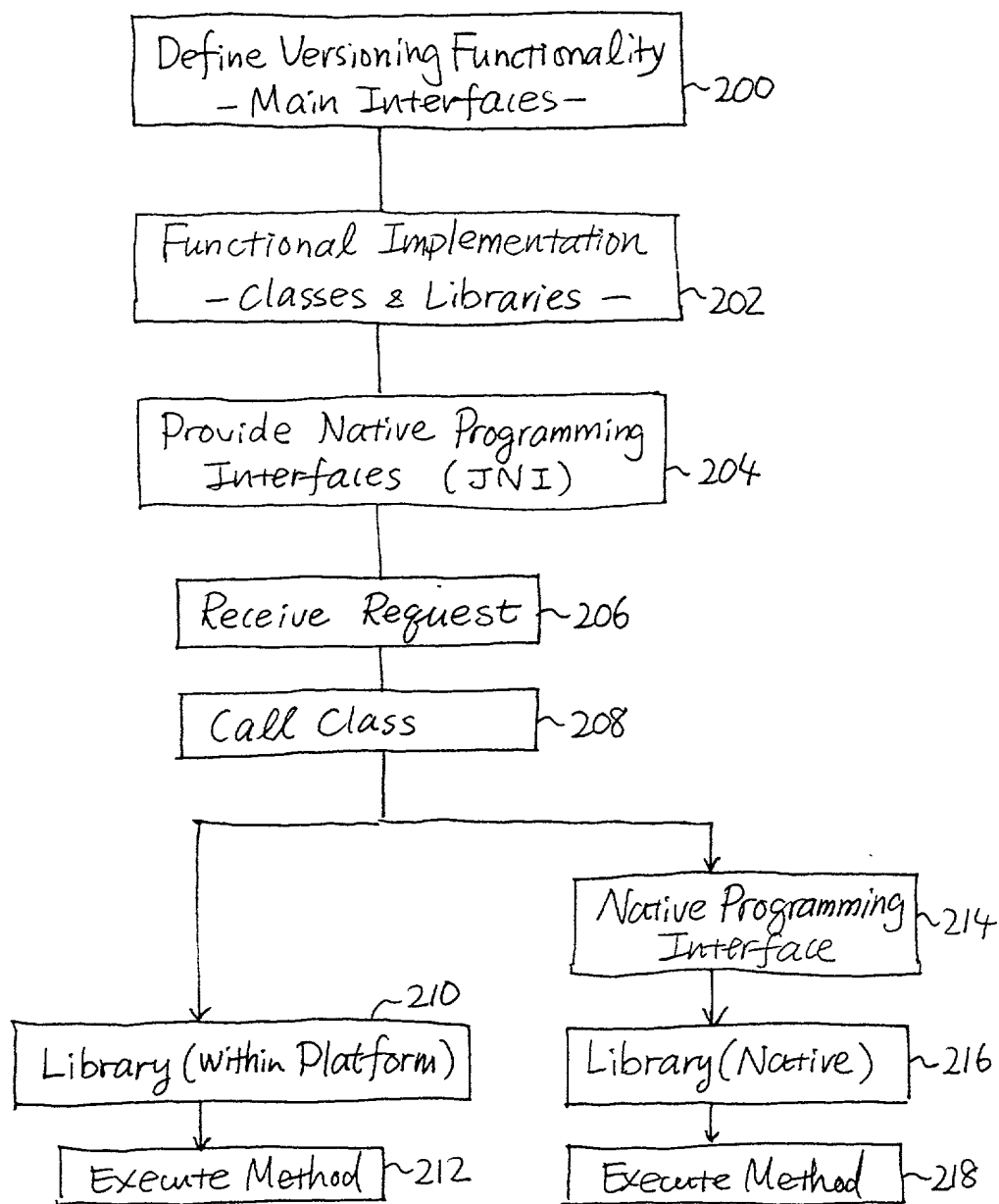


FIG. 4



```
package javax.version;

public interface JVServer {
    public JVRRepository logintoRepository(String username,
    String
    password, String repositoryname) throws JVException;
    public void logoutofRepository(JVRRepository repository)
    throws
    JVException;
}
```

FIG 6

```
public interface JVClient implements JVServer
```

FIG. 7

```
package javax.version;

public interface JVRepository {

    public JVRepositoryWorkspace
    getRepositoryWorkspace(String
    workspaceName) throws JVException;
    public List listWorkspaces() throws TwException;
    public void createWorkspace(String workspacename) throws
    JVException;
    public void deleteWorkspace(String workspacename) throws
    JVException;
    public void renameWorkspace(String oldWorkspacename,
    String
    newWorkspacename) throws JVException;
    public void lock() throws JVException;
    public void unlock() throws JVException;
}
```

FIG. 8

```

package javax.version;

public interface JVWorkspace {

    public boolean equals(Object o);

    /**
     * Checks whether workspace exists
     */
    public boolean exists() throws JVException;

    /**
     * Returns workspace abs name
     */
    public String getName();

    /**
     * @return false if user does not have access for specified
     * operation
     * @param operation is from the set of predefined constants
     * This method should always keep track of the user.
     */
    public bool checkAccess(String operation) throws JVException;

    /**
     * @return false if user does not have access for specified
     * operation
     */
    public bool checkAccess(String operation, String user) throws
    JVException;

    /**
     * Add children to workspace
     */
    public void addChildren(List children) throws JVException;

    /**
     * Remove children from workspace
     */
    public void removeChildren(List children) throws JVException;

    /**
     * Get children of workspace
     * @return List of Strings
     */
    public List getChildren() throws JVException;

```

FIG. 9A

```
/**
 * Set children of workspace
 * @param children List of Strings
 */
public void setChildren(List children) throws JVException;

/**
 * Sets new parent workspace
 */
public void setParent(String newParent) throws JVException;

/**
 * Gets new parent workspace as String
 */
public String getParent() throws JVException;

/**
 * Sets new parent workspace
 */
public void setParentWorkspace(JVWorkspace newParentWorkspace)
throws JVException;

/**
 * Gets new parent workspace object
 */
public JVWorkspace getParentWorkspace() throws JVException;

/**
 * Changes workspace parent.
 * Reparents the workspace and updates the old parent metadata.
 */
public void reparent(JVWorkspace newParent, boolean force)
throws
JVException;

/**
 * Adds of files to the list of files in conflict.
 * @param conflicts List of Strings
 */
public void addConflicts(List conflicts) throws JVException;

/**
 * Removes files from the list of files in conflict
 * @param conflicts List of Strings
 */
public void removeConflicts(List conflicts) throws JVException;
```

FIG. 9B



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```

/**
 * Sets the list of files in conflict.
 * @param conflicts List of Strings
 */
public void setConflicts(List conflicts) throws JVEException;

/**
 * Gets the list of files in conflict.
 * @return List of Strings
 */
public List getConflicts() throws JVEException;

/**
 * Locks workspace
 * TwLock should have the fields: type, cmd, PID (SID), host,
 * user, time. The constructor of JVLock should have these
 * arguments.
 */
public boolean lock(JVLock lock) throws JVEException;

/**
 * Returns list of workspace locks
 */
public List getLocks() throws JVEException;

/**
 * @return true if the lock exists
 */
public boolean checkLock(JVLock) throws JVEException;

/**
 * Unlocks workspace
 */
public boolean unlock(JVLock lock) throws JVEException;

/**
 * Creates a new physical ws, not a ws object
 */
public void createWorkspace() throws JVEException;

/**
 * Deletes a new physical ws, not a ws object
 */
public void deleteWorkspace(boolean metaonly) throws JVEException;

/**
 * Moves a workspace
 */
public void moveWorkspace(JVWorkspace dest) throws JVEException;

```

FIG.9C

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```
/**
 * Returns workspace description object
 */
public JVDescription getDescription() throws JVException;

/**
 * Sets new description for workspace
 */
public void setDescription(JVDescription newDescription) throws
JVException;

/**
 * Returns access control object
 */
public JVAcess getAccess() throws JVException;

/**
 * Sets access control object
 */
public void setAccess(JVAcess newVal) throws JVException;

/**
 * Gets history object
 */
public JVHistory getHistory() throws JVException;

public void setHistory(JVHistory newVal) throws JVException;
/**
 * Gets putback validation object
 */
public JVPutbackValidation getPutbackValidation() throws
JVException;

/**
 * Sets putback validation object
 */
public void setPutbackValidation(JVPutbackValidation newVal)
throws
JVException;

public JVStatus getWorkspaceStatus() throws JVException;
public OutputStream getFile(String relPathName) throws
JVException;
public void putFile(InputStream istream, String relPathName)
throws JVException;
}
```

FIG. 9D

```
package javax.version;

public interface JVTransaction {

    public static final int NOT_STARTED = 0;
    public static final int STARTED = 1;
    public static final int FINISHED = 2;

    /**
     * stops the transaction
     */
    public JVTransactionOutput getOutput() throws JVException;

    /**
     * @return one of the statuses defined in this interface
     */
    public int getStatus() throws JVException;

    /**
     * @return a List of checksum (statetable) comparison of 2
     * workspaces
     */
    public List init() throws JVException;

    /**
     * starts the transaction (non-blocking)
     */
    public void start() throws JVException;

    /**
     * stops the transaction
     */
    public void stop() throws JVException;
}
```

FIG. 10